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FOR THE POSITION OF  
**DEAN OF THE FACULTY OF  
ENVIRONMENTAL STUDIES**  
EFFECTIVE JULY 1, 1978

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Presidential Search Committee,  
Department of Geography, York University  
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**The Times Higher Education Supplement**

**THE NEW SOUTH WALES INSTITUTE OF TECHNOLOGY SYDNEY, AUSTRALIA**  
**ASSOCIATE HEAD OF THE SCHOOL OF BUSINESS ADMINISTRATION**  
\$A24,394 (Paig 15,102 approx.)

The New South Wales Institute of Technology provides at its central city campus in Sydney a wide range of professional courses for those entering or already employed in business, government, and technological fields. A new multi-storey Business Studies Building to house the four separate schools of the Faculty will commence construction in the near future. The Associate Head of the School attracts a full Professor's salary and carries with it a normal teaching load of 34 semester hours plus responsibility for a certain amount of administrative activities within the School as assigned by the Head of the School. The teaching responsibilities will probably include such subjects as Business Policy, Business Simulation, Organisation Theory, and Principles of Management.

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Academic staff are encouraged to undertake limited professional consulting for industry and commerce. Opportunities for research work are available. The appointment will be effective from June 1978. The position provides for superannuation, study leave and tenure. A Housing Loan Scheme is also available. Fares and a contribution toward removal and initial accommodation expenses are provided for overseas appointees.

Applications close on 27th February, 1978. Applicants should arrange for three confidential referees' reports and transcripts of academic qualifications to arrive by the same date. Applications, transcripts and referees' reports are to be sent to:  
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New South Wales Government Offices,  
68 The Strand,  
London, WC2N 6LZ, ENGLAND**

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• Fluid Flow • Advanced Thermodynamics • Process Control • Heat and Mass Transfer • Gas Pre-treatment • Turbines and Compressors • Gas Transmission and Distribution • Materials • Cryogenics.

**REQUIREMENTS:**  
Applicants should have an advanced degree in Chemical or Mechanical Engineering, with teaching and industrial experience highly desirable.

**BENEFITS:**  
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Sand resume to: D. V. Kriebes, 107 Asst. Vice-Pres. 3424 South State St., Chicago, Ill. 60616, U.S.A.

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\$A16,512—\$19,193 (Paig 10,204—11,861 approx.)

Applicants should possess a Higher Degree with strength in Accounting and an interest in Accounting, External Reporting Issues and Accounting Theory. Considerable experience in Public Accounting in Business and/or Government Accounting in a university or equivalent institution is essential. The person appointed will be expected to accept responsibility in developing subjects now existing and new courses and some other work associated with the administration of the Faculty of Business Studies.

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Applications close on 31st March, 1978. Applicants should arrange for three confidential referees' reports to arrive by the same date. Applications and referees' reports should be sent to:  
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**Head of Digestive Physiology Division (Brazil)**  
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Institute of Education, Tribhuvan University, Kathmandu. Good honours degree with teaching qualification in language teaching. Relevant experience. Salary: £4,688-£6,532 pa. Benefits: free furnished accommodation; allowances; other benefits. Two-year contract.

Return fares are paid. Local contracts are available. Please write, briefly stating qualifications, length of appropriate experience, relevant reference number for further information and an application form to The British Council (Appointments), 65 Davies Street, London W1Y 2AA.

# THE TIMES Higher Education SUPPLEMENT

January 23, 1976. No. 222 Price 12p

## Now the party really is over

Universities, colleges and polytechnics are to get virtually standstill budgets for the rest of the 1970s. They will be announced by the Government when its White Paper on Public Expenditure is published next month. Among the decisions also expected to be disclosed are: Another reduction of the student target (set at 750,000 in 1972) to about 600,000 by 1983. Phasing out the national "pooling" system of financing non-university further and higher education. Over the next

### UGC role will be critical

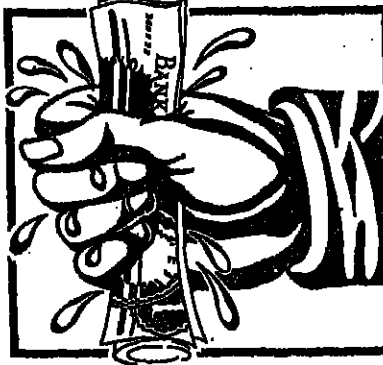
Brian MacArthur writes: The new five-year settlement for education is expected to be similar to the 1976-77 rate support grant which allows a 2 per cent increase in spending, while costs are still increasing by more than 10 per cent. It therefore amounts at least to a standstill and more probably to severe cuts.

University bursars will be back to the situation in the 1974-75 academic year when there was discussion of bankruptcies, more than 500 vacant posts were frozen, departmental budgets were severely pruned, and the staff-student ratio deteriorated.

It is being said, however, that the education service has taken only its fair share and no more of the cuts and that the higher education sector will fare no worse than the schools and further education.

Some universities are likely to start saying that they cannot expand student numbers on smaller budgets without vitally affecting academic standards (see page 2). Academic redundancies or the redeployment of staff in science and technology departments are also likely to be aired more frequently.

What is known as "incremental drift"—the inexorable rise in academic salaries because they are on annual incremental scales—will also affect budgets in polytechnics



### Threat to college staff tenure

David Hencke writes: Local education authorities which employ lecturers in polytechnics and colleges below the agreed staff: student ratio, which is expected to be 1:10, will be given a choice of declaring them redundant or paying their salaries directly from the rates.

The only exceptions will be lecturers teaching critical shortage subjects in science, technology and teacher education.

The Government's decision could mean hundreds of redundancies in several big polytechnics unless student recruitment rapidly improves in the next few years.

Colleges of education, already facing reductions in student teacher places from 14,000 to 60,000 by 1981, will be further affected by the cuts. The Government will be advised to cut teacher training units which are below 400 initial places, forcing up to 20 college closures on top of the 13 already earmarked for 1981.

The only exceptions will be colleges which have already proved successful in recruiting students, such as the City of London, the City of London Polytechnic, and North Riding, Scarborough.

Ministers will be advised that they must be prepared to reconsider the future of colleges which now appear to be secure the moment there is evidence that they cannot recruit and are becoming unco-nomic. The same fate will apply

## EEC giveth, Treasury taketh away

by Alan Cane  
Science Correspondent

British scientists are angry that a little-publicized aspect of the Government's economic policy is adversely discouraging them from applying to the EEC for a share of its research and development funds.

All public sector scientists are affected, but university and research council workers have been worst hit. One university professor said this week that he would abandon attempts to win EEC contracts because his colleagues would be financially penalized. A senior administrator in a Natural Environment Research Council establishment said his institute had decided it was no longer worthwhile to try for EEC funds. The Social Science Research Council is understood to have turned down economics projects for similar reasons.

Scientists are worried that opportunities to take part in European schemes have been squandered and that EEC research funds—including Britain's contribution—will go to other countries.

The cause of the anger is a Treasury policy called "attribution" or "clawback". Research funds are available from the EEC for applied research projects but under attribution any funds won from Brussels by British researchers are deducted from the overall vote of the Government department with an interest in the results of the research.

So an agriculturalist who won an EEC contract would see the Ministry of Agriculture, Fisheries and Food lose the value of the grant awarded. If the researcher was in a university department or research council institute the money would be taken from the funds the ministry has available to commission research from the Agricultural Research Council under the Rothschild arrangements.

So far only the ARC and the NERC—both of which have to win contracts from Government departments—have been directly affected and the agricultural ministry is believed to have applied the attribution principle in a particularly inflexible manner. All the research councils are potentially at risk and there has been a great deal of irritation and complaint.

It is understood that this week the Treasury responded by phasing the principle for the whole of 1976. This will give a respite but no joy to the research councils because EEC contracts are often on a three-year basis.



A LA RECHERCHE DU DON PERDU

### Postgraduate training 'too narrow'—MPs

Trenchant criticisms of British postgraduate education are expected in a report from a group of members of Parliament to be published next week. The report, an interim document from the Commons Select Committee on Science and Technology, currently investigating scientific research in universities, is also expected to be harshly critical of university attitudes to industry and vice versa.

The committee is understood to believe that there is much scope for improvement in relations between universities and industry in all areas, with the sole exception of the chemical industry. The quality of evidence submitted by academic chemists and the chemical industry.

The MPs visited the United States, Canada and Germany to gather evidence for their report and their continued on page 28

### PhD 'incest' protest

Twelve senior academics from five major universities have signed a letter to *The Times* protesting against university regulations which force research supervisors to sit in judgment on their own higher degree students. The signatories argue that two academics are essential, neither of whom has been responsible for supervising the student's research.

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## Britain's £2.4m share of £10m European venture

by Alan Cane  
Science Correspondent

Physics departments in British universities are to share in a new £10m international venture in atmospheric research, thanks to a large outlay and commitment to substantial recurrent costs by the Science Research Council.

The SRC's share of funding for the European Incoherent Scatter Facility (EISCAT) is £2.4m now and about £160,000 a year in future.

EISCAT's first meeting took place in Kiruna, Sweden, this week. Funded by France, Germany, Britain and the Nordic countries, the EISCAT group plans to build two high-powered radar transmitters and a series of receivers with which to probe the upper atmosphere and the ionosphere.

Contracts are expected to be placed soon and the first transmitter commissioned by 1979.

The SRC decided to join the EISCAT project at the urging of a number of university physics departments, including Aberystwyth, Lancaster, Leicester, Sheffield, Southampton and Sussex. The original impetus seems to have

come from the Incoherent Scatter Group led by Dr Philip Williams at Aberystwyth, whose work on the topic in conjunction with the SRC's Appleton Laboratory came to an end last summer. EISCAT is the natural extension of this work.

In principle, incoherent scatter techniques use powerful VHF and UHF radar transmitters to beam radio waves into the upper atmosphere. The beams are reflected by electrons in the ionosphere derived from the solar wind, the continuous stream of charged particles emanating from the sun.

The reflected echoes are picked up by sensitive receivers and from these physicists are able to determine a host of information about the upper atmosphere including the electron density, temperature, ion temperature and the bulk velocity of the plasma.

The transmitters will be based at Tromsø in Norway and receivers will be based at Tromsø, Kiruna and Sodankylä in Finland.

Dr Williams explained this week that the chief practical significance of the research lay in an increased understanding of how interaction between the solar wind and the upper atmosphere affected the weather and radio communications.

## Raise grants to £1,000 Boyle says

Boyle says

by Ian Coxon

Student grants should be raised to £1,000 so that higher charges can be made for college accommodation and catering, Lord Boyle, vice-chancellor of Southampton University said this week.

He wants the Government to raise the grant from its present level of £740 to at least £975 for the coming session. At the same time he wants to see a substantial increase in the minimum grant of £50 and believes that parental contributions should be considerably increased.

But Lord Boyle warned that if grants were to be greatly increased the Government might try to make savings in other directions. "There is a danger that it might be tougher on students claiming social security," he said. "I think we should have to look at such a move very carefully."

Lord Boyle lent his support to the campaign for higher grants when he addressed a meeting in the students' union to discuss Leeds University's financial position.

He said he did not want higher grants solely for his own purposes but added that he had never made any secret of the difficulty the university was having in managing its affairs while grants were so low.

The figure of £975 for the 1979-77 grant is based on the value of the grant in 1962. The grant for this session should have been set at £849, not £740, Lord Boyle said.

During the meeting he explained how Leeds expected to end this session and the current quinquennial with an accumulated surplus of £750,000.

Lord Boyle went on to hint that the actual surplus may be nearer the £1m mark if inflation continued to fall.

## Country 'cannot afford' any further cuts in intake

by Frances Gibb

Universities may be forced to cut their student intake in the next five years, Professor L. C. Gower, vice-chancellor of Southampton University, warned this week.

Introducing the annual report for 1974/75 to the university council he said that Southampton was reluctant to reduce its intake while applications were buoyant but it might be forced to do so to adjust to changing economic circumstances.

"A country that is as dependent as ours is for economic recovery on the skills of high-level manpower cannot afford, however hard-up, to reduce still further the woefully small proportion of the population with a university training."

Southampton was prepared to make economies but not to the point of destroying itself as a centre of academic excellence, he said. To maintain standards not all posts becoming vacant had been frozen and it had been decided to create new chairs in geography and experimental psychology.

Southampton was near the top of the league table, in research grants and student applications. It was second only to Bristol, which was being rapidly overtaken in the year.

## Keele breaks new ground

Keele University has appointed its first woman professor. She is Miss Olive Stevenson, reader in applied social studies at Oxford University and former editor of the *British Journal of Social Work*.

Miss Stevenson, who will take up her appointment in October, was a member of the Committee of Inquiry into the care and supervision of Maria Colwell and of the Royal Commission on Civil Liability and Compensation for Personal Injury.

## Medical schools 'chauvinistic'

Well qualified girls hoping to get a place at medical schools are receiving fair consideration in comparison with their male counterparts, the Equal Opportunities Commission has been told.

The plight of female applicants to medical schools was outlined at the first official meeting of the Equal Opportunities Commission in Manchester recently. In its first two weeks of operation the Commission received about 2,500 inquiries.

## £1m for 100 new projects

The Leverhulme Trust allocated more than £1m to nearly 100 new projects in 1975. A further £178,000 was awarded in grants to individuals during the year.

The trust's annual report shows that the organization's total commitment in terms of grants at the beginning of 1975, resulting from schemes approved previously, amounted to nearly £3m. During the year the trust allocated a further £1,064,000 to institutions in the United Kingdom and overseas.

The University of Surrey received £130,000 to be spread over three years, to carry out research on methods of improving the teaching of practical skills, and the University of Edinburgh was awarded £18,000 over three years for a programme of research and teaching in medical ethics. Other universities to receive awards included Durham, Leeds, Liverpool, Birmingham, London and Newcastle.

## List of social work courses published

A compendium of courses leading to professional qualifications in social work has been published by the Central Council for Education and Training in Social Work in the form of three leaflets available from the council's information office.

They provide details of general social work training together with courses which emphasise residential work and training for teachers of the adult mentally handicapped.

## Pay differentials reduced

The difference between the top and bottom jobs in university teaching has been narrowed considerably more than in industry or the Civil Service, a Bradford University professor has calculated.

Professor G. D. Newbould, whose inaugural lecture in managerial economics on movements in academic salaries has just been published, found that comparing post-war university salary rises with those in industry and the Civil Service, the difference was reduced.

| Career Choices with ratios of Salary Spread        | 1965 | 1975 | Change % |
|----------------------------------------------------|------|------|----------|
| Professional salaries at 25 times starting salary  | 10.0 | 3.3  | -67      |
| University salaries at 25 times starting salary    | 7.2  | 2.2  | -69      |
| Industry salaries at 25 times starting salary      | 5.0  | 1.5  | -70      |
| Civil Service salaries at 25 times starting salary | 4.5  | 1.2  | -73      |
| Other salaries at 25 times starting salary         | 3.5  | 1.0  | -71      |

bottom of the lecturer scale in both years showed a lessening of the differential by nearly 20 per cent.

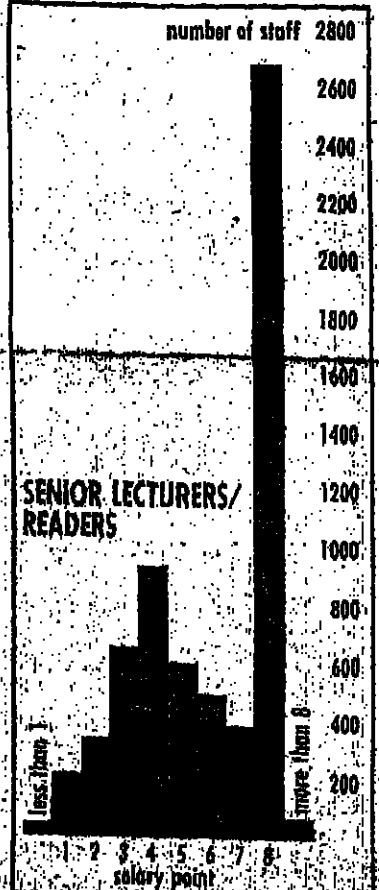
By comparison a senior Civil Servant had increased the salary differential between himself and someone at the foot of the Civil Service scale. In the accompanying table shows, in the same period, the top executive of a large industrial company was in approximately the same relation with a starting salary. "Only in banking was the difference more reduced."

## Promotions clogged, survey shows

The promotions system for university lecturers is clogged up, according to a recent survey of the profession by the Association of University Teachers.

As the accompanying tables show there is a concentration of staff at senior jobs below the break from lecturer to senior lecturer and from senior lecturer to reader or professor. The prospects of advancing beyond the lecturer scale for many are becoming increasingly limited.

A document circulated by the AUT explained: "During the past period of expansion promotion was more frequent than before and happened at an earlier age but with the period of financial stringency which may continue for some time promotions under the current structure will be drastically reduced."



document circulated by the AUT explained: "During the past period of expansion promotion was more frequent than before and happened at an earlier age but with the period of financial stringency which may continue for some time promotions under the current structure will be drastically reduced."

A spokesman for Cleveland said this week that the authority was originally prepared to take over the college but after receiving its final teacher training figure of 400

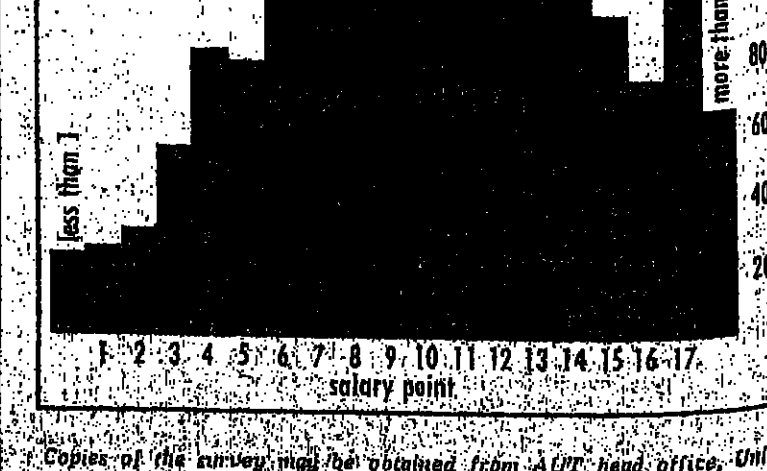
places, it realized that all the places could be accommodated in its new purpose-built college of education in 1976.

The authority also felt that the difficulties of running a three-site polytechnic with two outposts, six and 14 miles away from the centre of Teesside would not justify the cost of the college.

The only interest the local authority has in Middleton St-George is the use of its residential places for temporary accommodation for polytechnic students.

The DES is, however, keen to merge all three institutions to strengthen the polytechnic. A meeting between Cleveland and Lord Crowthurst-Hunt this week failed to solve the problem.

While the impasse continues, Teesside and Middleton have both been given an intake of 90 students for next September.



Copies of the survey may be obtained from AUT head office, United House, Pembroke Road, London W11 0PT.

## Computer Board likely to retain present form

by Alan Cane  
Science Correspondent

The Computer Board should remain essentially independent of the University Grants Committee, but should be increasingly on a collaborative basis with the Science Research Council to discharge its responsibilities.

This was the general view expressed at the "Buxton symposium" on the future of the Computer Board held by the board before Christmas and involving representatives of all organizations involved in academic computing (HES, November 11, 1975).

Subjects of the meeting are now circulating in university computing circles, and it seems certain that there was general agreement that the Computer Board should continue in its present form for at least the next few years.

University computer specialists were saying this week however that the "Buxton" recommendations represented a conservative consensus and that the eventual proposals to be published in a few months, would be much more far reaching.

Sir Arthur Armitage, chairman of the Committee of Vice-Chancellors and Principals, is reported as saying that he believed there would be a modest growth in student numbers over the period up to 1981 and that such growth would be more rapid in science and technology than in arts. He believed the proportion of post-graduate students would increase.

Contrary to expectations the meeting failed to agree on whether

charging for computing services was necessary in universities but there was a feeling that the amount universities were prepared to pay should be established. The board was urged to discuss charging further with the UGC and the SRC. It was also urged to examine the possibilities of establishing a computer network. A coordinating unit has been established to decide the advantages of setting up a network and the best system for use.

In an introduction to the meeting Dr Henry Chilver, vice-chancellor of Cranfield Institute of Technology and chairman of the Computer Board, is reported as saying that £60m had been spent by the board on installing university computers and regional computing centres had been installed at Edinburgh, London and Manchester.

There were three reasons for reassessing the board's policies: ● Advances in computing technology and techniques, especially the development of networks and the introduction of smaller and more powerful machines.

● Changes in the national economy which meant the financials of the board and the universities were becoming dominated by recurrent costs.

● The increasing use by social scientists and other non-technologists of university computing facilities with consequent new interest in interactive facilities and data storage.

He warned that the present, untested position on funding was not likely to improve for five years.

## Cleveland merger argument leaves college in limbo

by David Hencke

An argument between Lord Crowthurst-Hunt, Minister of State for Higher Education, and Cleveland education authority over a three-way polytechnic merger has left a 700 student college of education without a secure future.

Middleton St-George College of Education, County Durham, is the only college of education in Cleveland, and was to be merged with Teesside Polytechnic under a Department of Education and Science plan.

Durham education authority has agreed to transfer the college to Cleveland but Cleveland has refused to accept the financial responsibility for running the institution.

A spokesman for Cleveland said this week that the authority was originally prepared to take over the college but after receiving its final teacher training figure of 400

places, it realized that all the places could be accommodated in its new purpose-built college of education in 1976.

The authority also felt that the difficulties of running a three-site polytechnic with two outposts, six and 14 miles away from the centre of Teesside would not justify the cost of the college.

The only interest the local authority has in Middleton St-George is the use of its residential places for temporary accommodation for polytechnic students.

The DES is, however, keen to merge all three institutions to strengthen the polytechnic. A meeting between Cleveland and Lord Crowthurst-Hunt this week failed to solve the problem.

While the impasse continues, Teesside and Middleton have both been given an intake of 90 students for next September.

## More vocation courses urged

Universities and polytechnics must be given the resources to provide non-degree courses, Sir Derman, Secretary of State for Education and Science, when he gave evidence to a Commons all-party committee this week.

Sir Derman, writing in his capacity as chairman of the Central Council for Education and Training in Social Work, said he was concerned that vocational courses were being underfunded at the expense of general degree courses.

He wrote: "The concern of the CCETSW is to expand and consolidate the vocational-orientated training of social workers in both universities and colleges. The universities do not in recent circumstances find it easy to provide the resources needed for efficient post-graduate training in this field."

"The position of non-graduate courses in polytechnics and further education colleges is even more difficult."

Sir Derman added that vocational courses were handicapped in several ways: they involved expensive fieldwork; teachers were paid more for degree work and grants were often not available.

He concluded: "It is ironic that just as serious attempts are being made to forecast the training needs of the social services, other public bodies of the whole penalize any vocational training that cannot readily fit the requirements laid down for degrees."

## Some research called 'rubbish'

The quality of educational research was severely criticized by Sir William Pile, permanent secretary at the Department of Education and Science, when he gave evidence to a Commons all-party committee this week.

Sir William said a part of educational research was rubbish and another part led nowhere. He added: "It is exceptional to find a part of research that hits the nail on the head. The DES has to evaluate the rubbish category, the indifferent category or the valuable category."

The word 'research' had been debased, Pile said they had done some research if they stopped to think for three minutes. Sir William told the education and arts subcommittee of the public expenditure committee which was examining the role of the DES.

He revealed the DES was spending £750,000 this year on research grants and 70 projects were currently under way. The vast majority of this research was being carried out in normal higher education centres.

Research sponsored by the DES had to have some element of policy formation or some relevance to improving the quality of education, Sir William said.

When asked by Miss Janet Fookes, Conservative MP for Meriton and Morden and chairman of the committee, if a research wing at the DES would prove more efficient than the present arrangement provide a solution. But he added that more staff would be needed to carry out research work.

Interviews are still going on to the department of social administration for the chair formerly held by the late Professor Richard Titmuss.

## Last call for comments on London Bill

by Sue Reid

London University has made a final appeal for comments on the draft of its controversial private Bill, a preliminary to major constitutional reforms, which is to be submitted to Parliament later this year.

The appeal has come in the fifth and final report of the university's consultative committee, set up to promote discussion on the Murray report.

The main aim of the Bill is to free the university from one "strait jacket" section of the University of London Act 1926 which strictly limits its statute-making powers.

Once the Bill is passed the university will be able to put forward new statutes and make the constitutional reforms it wants.

In the latest report, which brings the consultative committee's role to an end, the university's schools are asked to make their comments on the proposed Bill before the end of February.

So far 18 schools have given their tentative approval to the draft Bill but more than 10 have not yet answered the appeal for comments.

first made in the committee's third report eight months ago. Once the schools of the university have commented a revised form of the Bill will be drawn up and the schools will again be consulted before the London University senate settles its final form.

Work on the revised statutes is already under way and the university hopes to produce a first draft before April. Again consultation will be a prime consideration and all the schools and university bodies will be asked to comment before a second draft of the statutes is prepared in October.

The main substance of the statutes was agreed in the fourth report, entitled *The Way Ahead*. The four statutes proposed by the university early last year and later disavowed by the Privy Council are also likely to be put forward again in the private Bill.

These would make the vice-chancellor the full time salaried and administrative head of the university with a possible term of office of eight years.

Other issues related to basic constitutional reform were raised in the original Murray report. These issues, which included the admission of students, the appointment of professors, the structure of central administration and the future of various schools and university institutes have been discussed by the consultative committee and the relevant university bodies and schools, although many have not yet been finally resolved.

The situation at Goldsmiths' College and its relationship with London University was one important issue raised in the Murray report. The college is anxious to become a school of the university but the Murray proposals recommended otherwise.

At present the college is incorporated in the university and governed by London University delegates. It is a public sector college. Its possible merger with two former colleges of education—Rachel McMillan and St Gabriel's—is presenting a barrier to it becoming a school as the enlarged Goldsmiths' with the possible student target and financial problems this could present.

power be reduced and that more responsibility should be given to the faculty boards. The responsibilities of the faculty boards themselves and of the resources centres needed to be more clearly defined, the report said. The successful working of the system depended heavily on deans and assistant deans and the CNAA felt that in some areas they were not fully exercising their responsibilities.

The CNAA found that there was a lack of understanding about the polytechnic's appointment procedures for course leaders and about their role. The accountability of such leaders to the director might make it difficult for them to exercise academic leadership in all subjects in the course, the report added.

It commended, however, the polytechnic's course development procedures, and its plans to associate external advisers with certain course proposals.

The low level of research at the polytechnic was criticized. The CNAA welcomed the polytechnic's plan to appoint senior academic staff to develop and coordinate research in their subjects.

In general the CNAA praised the polytechnic's work in unifying its five colleges, despite communication difficulties, and was impressed by the "enthusiasm, dedication and ability of many of the staff and the excellent quality of work in some areas".

It requested the polytechnic to submit a revised academic and physical plan in July, 1977.

## CNAA report shows doubt about poly's decision-making

by Frances Gibb

Doubts about the way decisions were taken at Middlesex Polytechnic were expressed by the Council for National Academic Awards in its quinquennial report on the polytechnic last month.

The CNAA disputed the polytechnic's claim that decision-making was as close as possible to the activity of teaching. It was concerned that resources decisions could only be made centrally and by the executive arm.

Dr Raymond Rickitt, the director, was criticized for setting up a development plan working party, which, although later approved by the polytechnic's academic board, could be seen as "the executive arm" forestalling the democratic process.

But the report added that many of these problems had been caused by the need to create a unified institution as quickly as possible.

"This was probably true in regard to the instances of executive action being taken by the director or his senior colleagues."

While appreciating the need for such action at the start of the polytechnic's life, the CNAA hoped that the established decision-making bodies, such as the academic board and its committees, would now be used.

The CNAA recommended that the power of the executive be clarified; that the academic board be reduced in size as the polytechnic had planned; that the general purposes committee be abolished or its

power be reduced and that more responsibility should be given to the faculty boards.

The responsibilities of the faculty boards themselves and of the resources centres needed to be more clearly defined, the report said. The successful working of the system depended heavily on deans and assistant deans and the CNAA felt that in some areas they were not fully exercising their responsibilities.

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## David Walker examines the SSRC's industrial relations unit



Routes' Ryton plant near Coventry: the backdrop to the Warwick unit's work.

## A novel academic showpiece in deepest Chrysler country

Coventry, in the heart of Chrysler country, would seem an ideal vantage point for the study of industrial relations in Britain. It was at Warwick University, on the town's outskirts, that the Social Science Research Council established its industrial relations research unit in 1970.

The unit is justly held up by the SSRC as a showpiece, not because shop floor disputes have been smoothed away or management made more understanding by its work but because it has so far been a successful experiment in academic organization.

Its dozen staff and associates have made detailed contributions to the English tradition of industrial fact-finding that started with the Webbs and taken the first steps to break the American monopoly of the theory of industrial relations.

The Warwick unit has been a prolific publisher of papers and substantial books. Perhaps it would be an overstatement to call the unit a specialist in the academic study of industrial relations but nevertheless it has been a catalyst.

If the SSRC takes any lessons from the experience they will probably be about the nature of academic industrial relations and the importance of sound leadership within basic agreement about the unit's purposes. On paper its director is an enlightened despot. In practice the unit has worked through the avuncular charm of Professor Hugh Clegg, its former part-time director, and his full-time successor Professor George Bain, an energetic Canadian with winning candour.

Interested academics say that both these men have had the charisma and the contacts to give the unit a boost and give it work to do. Also the SSRC has, through the unit's advisory committee and the review panel, roped in most of the academics involved in industrial relations to give them a stake in the unit.

The unit's main impact has been through its publications. A project to monitor the effects of the Industrial Relations Act of the 1970-74 Conservative Government resulted in a detailed study of its workings called *Industrial Relations and the Limits of the Law*.

Two members of the staff of Warwick University who are associated with the unit have produced during the past year two well-received works which put it firmly on the map. Dr Richard Hyman (with I. Braithwaite) published *Unions and Industrial Relations* as the culmination of a project to investigate the attitudes of shop stewards, managers, union officials and workers to the notion of "fairness". The other book, by Dr Richard Hyman, was *Industrial Relations in Great Britain*.

Publication by the unit was backed initially by a favourable arrangement with Heinemann, to be replaced after some hesitation with the more costly arrangement with Basil Blackwell.

The research unit's emphasis on publishing its results is part of what Professor Bain considers to be responsible in both the academic world and in society. During the recent SSRC review of the unit's work, there was considerable discussion of the unit's policy.

makers in government and trade unions.

Professor Bain's reply was that while the "limits of popularization" the unit is an active publicist: the TUC and the Confederation of British Industry have assessors on its advisory panel; all the trades unions are on its mailing lists; the Department of Employment is informed about specific projects that could be of interest; seminars are held with local employers and lectures are given across the country.

One of his staff, Mr Brian Weekes who worked in the printing industry before advising both the National Board for Prices and Incomes and the Industrial Relations Commission, says: "My preoccupation is not with academic audiences but in providing a body of empirical information about which decision makers should know. For instance, our work on the Industrial Relations Act was based on the assumption that its workings should be empirically recorded to provide information and systematically reduce the area of speculation."

The unit's work, however, is resolutely academic. An interesting comparison is with the Trades Union Research Unit at Ruskin College, Oxford, under Mr John Hughes. Most of its work directly services unions in their wage claims by collecting data and analysing trends in settlements.

Although the Warwick unit does not eschew "commissioned" work it sets strict conditions on the kind of research it will do. In fact its only commissioned work so far has been a survey on behalf of the Universities' Committee for Non-Teaching Staff to provide information on technicians' pay.

Critics have alleged the Warwick unit has a pro-trade union bias in its approach to industrial relations, and that it is not necessary in industrial society or that they do not perform useful functions. Some people around may be anti-management, but we are far more likely to be criticized from the extreme left.

Professor Bain says: "There is no one in the unit who believes unions are not necessary in industrial society or that they do not perform useful functions. Some people around may be anti-management, but we are far more likely to be criticized from the extreme left."

Unlike some of his staff, Professor Bain "leans towards a 'positivist' view of the knowledge gathered by the unit; facts about wages, working conditions, etc. could be of use to both sides. It is joined by Mr William Brown, author of *Piecework Bargaining*, who puts much emphasis on the work fact of learning more about the attitudes of shop stewards, managers, union officials and workers to the notion of "fairness". The other book, by Dr Richard Hyman, was *Industrial Relations in Great Britain*.

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## Why and how students choose their courses

Lack of information on when, how or why a school leaver decides to enter higher education is the root of the student recruitment problem for polytechnics and universities.

As part of a longitudinal study, I collected data on a sample of sixth formers during their final year in an attempt to find out how decisions about particular courses or colleges were made. Two hundred sixth formers (104 boys, 96 girls) from 10 schools in two geographical areas provided information through questionnaires, attitude scales and interviews about their proposed activity after leaving school.

This information was combined with the sixth formers' views of a range of institutions and with how they saw their chances of entry on the basis of expected A-level results.

Data were collected four times during one academic year and located within a framework which argued that the student would choose a course or institution on the basis that he believed it to offer support for some of his value commitments that he might get in.

Clearly some changes of plan occurred as the year progressed, for while university aspirations remained a large and stable proportion of the sample the percentage choosing a college of education declined and the number choosing a polytechnic increased. There was also a swing away from "no higher education" to the suggestion is that the sixth formers who eventually enter a polytechnic do not reach that decision until the end of their school career. The polytechnic entrant is more likely to have chosen his course after the college of education entrant and much later than the university entrant.

The case of the polytechnics is unique in this context and it is to this area that I shall address the remainder of this paper.

Why is the process of choosing a polytechnic such a last-minute affair? One answer is that many polytechnic entrants would have gone to a university had their A-level grades been good enough. Now this is undoubtedly true in a number of cases but other explanations are suggested if we examine the factors which polytechnic entrants had indicated as having the greatest influence on their decision.

At the beginning of the year, September, the six most powerful influences measured by mean scores were in descending order: the polytechnic prospectus, main subjects teachers at school, friends and family, a polytechnic visit, school visits, and the university prospectus.

By December when the process of choosing a polytechnic had gathered some momentum (see table) a new set of influences had emerged. The last word reads the polytechnic interview, the polytechnic prospectus, visits to polytechnics, main subject teachers, and the university prospectus.

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This pattern continues for the rest of the year, with all school-based influences being more powerful than those from outside the school. Examinations receiving lower mean scores than polytechnic-based influences. This is important for it suggests that polytechnics themselves have the potential to persuade sixth formers to undertake a polytechnic course.

It is necessary to be clear that these influences are not pushing sixth formers into their arms. I have argued that the polytechnic is likely to reach his decision late in the day, that his commitment to a university is more likely to be a last resort, not a college of education. It is not, I think, surprising that this is so since polytechnic-based influences, with the exception of peer group pressure, tend to be directed to the upper sixth formers.

But what of the heavily polytechnic interview? This is a key moment in the process for a number of reasons. It provides first-hand information about a course, by allowing

interaction with significant others, the polytechnic enabling the former to see the course and its place within that course. The interview may also provide specific information about the A-level grades he as an individual will need to achieve in order to obtain a place which can then be related to the sixth formers' own estimate of chances of getting those grades.

Interviews, of course, take many forms. The interview as a factor influencing the choice of a polytechnic course received considerable higher scores when it was accompanied by a measure of some involvement in the polytechnic, for example, other students' views, lectures and practical work observed and when applicants were in on campus.

The interview plus "action", more influential than a mere open day because it takes place within a context of commitment, no matter how small, for the former would not have bothered to turn up for interview had he been in some way involved in the course. This initial interest, then, via the medium of the interview, he receives while at a polytechnic.

To return, therefore, to the original problem, just what do polytechnics do to attract students and to have more precise estimates of likely student intake? One solution is, I think, clear: it is in the area of polytechnic perception that most can be done: providing opportunities for sixth formers to build up earlier and more complete estimates of polytechnics. This still involves a combination of literature and visits to schools and visits to schools and visits to schools.

Once this base has been provided, polytechnics need to encourage sixth formers to see the value of a polytechnic visit, to see what they are like by experience, and to see the value of a polytechnic visit, to see what they are like by experience, and to see the value of a polytechnic visit, to see what they are like by experience.

At the moment polytechnics are playing a dangerous game by encouraging an early commitment to a course through not active involvement in their school careers. The table clearly shows that the decision to enter a polytechnic is likely to be a last minute, making accurate forecasting of student demand a hazardous business, and producing a situation of many courses being drastically under-subscribed.

To combat this, polytechnics ought to give more notice of their existence by encouraging more varied associations with schools and colleges of further education. It can be expressed, for example, in a series of workshops, or in a series of workshops, or in a series of workshops, or in a series of workshops.

Not all sixth formers or students in colleges of further education find a polytechnic course an attractive proposition, and many of these students are not in a position to make a choice. It is necessary to be clear that these influences are not pushing sixth formers into their arms. I have argued that the polytechnic is likely to reach his decision late in the day, that his commitment to a university is more likely to be a last resort, not a college of education. It is not, I think, surprising that this is so since polytechnic-based influences, with the exception of peer group pressure, tend to be directed to the upper sixth formers.

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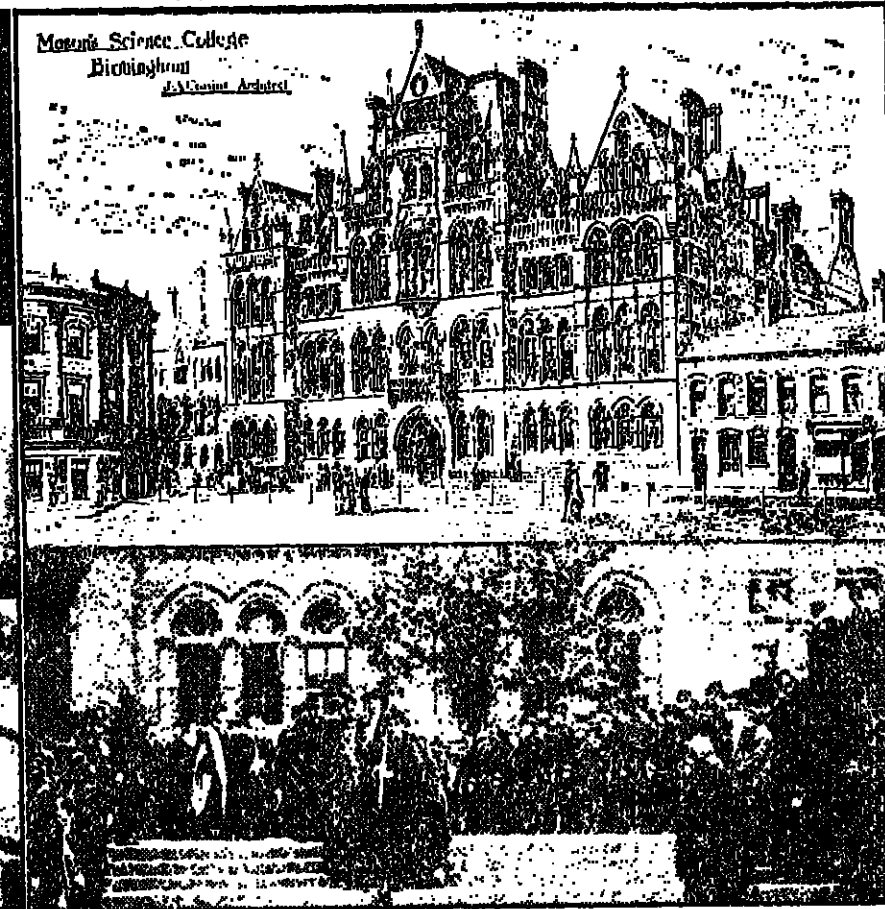
## Mirror to a Mermaid

Sir Josiah Mason laid the foundation stone of Edgbaston Scientific College in Edgbaston Street, Birmingham, on February 23, 1875, his eightieth birthday. It was an event of greater significance than he realized for it led 25 years later to the creation of Birmingham University.

To celebrate its centenary the university has produced a pictorial record of its past, using over 200 photographs and drawings dating back to the 1870s.

Compiled by Mr Maurice Chesham, the university's information officer, the book does not claim to be a full history, since until recently its photographic records were not kept with any care.

But it does provide a remarkable record of certain periods and events. Entitled *Mirror to a Mermaid*, after the mermaid in Josiah Mason's heraldic crest, it is available from Birmingham University, PO Box 363, Birmingham B15 2TT, price £2.85.



Left, top to bottom: Sir Josiah Mason; Sir Edward Elgar, first professor of music (1905-08); Dr Robert Brockie Hunter, present vice-chancellor. Centre top: design for Mason College; bottom, start of the first degree day procession, 1901. Above: the Queen at Birmingham for the centenary.

## To whom should researchers be responsible?

Peter Wilby discusses some areas of responsibility that should apply to research

The major concern of educational researchers since the Second World War has been in examining the system as a whole. In particular they have tried to establish how far its results achieve such desired goals as equality of opportunity.

Are a higher proportion of working-class children entering higher education than, say, 20 years ago? Do comprehensive schools reduce class inequalities in achievement? Which reading method produces, on average, the best results? Are poor reading scores correlated with mothers of pre-school children going out to work? Do mixed ability classes in secondary schools increase examination passes? Do small classes lead to better academic results?

These are the sorts of questions that researchers have tried to answer through the study, frequently statistical, of cohorts of children, teachers and students. It is on such studies that many Government recommendations of inquiry have based their recommendations.

Today, teachers, researchers and policy-makers are having to face the implications of Dr A. H. Halsey's statement, in the first volume of his report on the Government's educational priority area experiments, that the history of twentieth century education has been a history of egalitarian policies have failed.

In America, Christopher Jencks's studies have suggested that education is almost entirely ineffective as an instrument for reducing social inequality. In Britain, the National Child Development Study has indicated that the disadvantages that some children have when they get to school are already so crippling as to be irreversible by any conceivable educational system.

Eric Midwinter has defined what he calls "the iron law of social class": the number of children a local education authority sends to university depends almost invariably, on its social class composition. Through research suggests the opposite, there is a growing weight of opinion that putting more resources into education does not lead to measurable improvements in pupil performance.

The disillusion with large-scale (macro) educational, to adopt the economists' jargon, adjustments of policy, particularly in the reorganization of schools and the reallocation of resources, has led to disillusion with the large-scale survey. Simultaneously, an explosion of curriculum development, particularly under the aegis of the Schools Council, has created the need, as funds become more scarce, to evaluate classroom innovations.

If the educational research of the past 30 years has taught us one thing it is that achievement in schools depends, not primarily on the use of a certain method, not on the availability of certain resources, not on the introduction of a certain form of organization, but on the quality of a child's classroom experience.

Education depends on the fabric of personal relations between pupils and teachers. That does not mean that smaller classes and the abolition of streaming are irrelevant only that, if we are to get the best out of these innovations, we must increase our

understanding of the use that teachers make of them.

So a new form of educational research is beginning to flourish: the case study, a method that defies academic definition because it mixes history, psychology, sociology, anthropology, even literature. The case study is an attempt to describe (not necessarily in a quantitative sense) what happens in a particular school or college or setting, either the teacher's union or the teacher's classroom, to transmit a sense of the vividness, complexity and richness of real life.

It can be defined, according to one of its practitioners, as "an authenticated anecdote"; according to another, as "the study of an instance in action, embedded in a particular context, place and time".

Conclusions drawn from a case study may not be easily susceptible to generalization. But they may be more useful for that. Too many educational policies have been implemented and bandwagons launched on the basis of facile and insecurely-based generalizations. The case study may do no more than illuminate, for individual teachers, the nature of classroom work.

Because it is a relatively new approach, without established rule-books, techniques and guidelines, the case study raises both methodological and ethical problems. If the researcher is examining the fabric of school life, he is inevitably examining, possibly judging, people.

What are his rights to intrude on their privacy? What do they get in return for the access to themselves and their work that the researcher is allowed? How can they be protected from the possibly damaging consequences of the researcher's account of them? How should information that is offered on a confidential basis be treated?

These were some of the questions discussed at a researchers' conference at Churchill College, Cambridge, last month, sponsored by the Nuffield Foundation and convened by members of the Centre for Applied Research in Education at the University of East Anglia. Many of the ethical issues raised were similar to those facing journalists. So it attracted the conference as a participant rather than to report on it and, therefore, this article is not a report of the conference as a whole, but of the aspects that particularly interested me.

The approach used by the CARE convenors (who are engaged largely in evaluating curriculum innovations such as Nuffield science and computer-assisted learning) is based on the notion of "democratic evaluation". They say that the crucial question is, to whom is the researcher responsible?

He may, of course, be effectively independent, responsible only to his academic peers. In this case, the criterion for the success of his research is, not its usefulness either to teachers or to policy-makers. A growing proportion of educational research, however, is funded by public bodies.

Is the researcher's responsibility, then, owed exclusively to his sponsors and to what they see as useful information and proper educational goals? Do the "victims", so to speak, have no rights to demand that the

research reflects their values and help them in their work?

The researcher's (or evaluator's) role as a judge assessing people according to the demands and values of his bureaucratic masters, is becoming increasingly acute in the United States, where in at least one-quarter of the states a teacher's career can depend on the performance of stated objectives.

In the United Kingdom, there is no foreseeable prospect of evaluators acquiring as much power. But several local education authorities now have research units and have switched advisers to research problems. And evaluators have growing power over the direction of curriculum development in schools. Some potential for political control, though it has rarely been exercised, exists through manipulating the Schools Council.

So, according to CARE's Barry MacDonald, the democratic evaluator should act as "a broker in exchanges of information between groups who want knowledge of each other". He should serve teachers as well as policy-makers, the wider the range of stakeholders. His methods and final results must be comprehensible to non-specialists. He aspires to best-seller status. He leaves people to draw their own conclusions, rather than offering recommendations.

MacDonald's philosophy is well illustrated by a proposal to the DES for the funding of an evaluation of computer-assisted learning.

"Our society contains different, even conflicting notions of what constitutes educational excellence. The evaluator has, therefore, many audiences who will bring a variety of perspectives, concerns and values to bear upon his presentations. In a pluralist society, he has no right to use his position to promote his personal values, or to choose which particular educational ideologies he shall regard as legitimate. His job is to identify those who will have to make judgments, and decisions about the programme and to lay before them those facts of the case that are recognized by them as relevant to their concerns."

MacDonald and his colleagues suggest that researchers should make interim reports of their work available to members of the institution they are studying and design their later work in the light of reactions to those. When the study is complete, those studied should not only have a copy of the report (and where the researcher is beholden entirely to a public authority, they may not even get that) but also some understanding of the skills involved in compiling it so that they can continue the research alone.

In other words, the point of the research should be to help teachers evaluate what they are doing themselves, according to their personal values and goals, as well as to help outsiders evaluate them from some Olympian posture of judgment.

Another CARE principle is that "people own the facts of their own lives". Confidentiality should be observed not only where people demand it but also where the researcher has used his professional skills to elicit information they might otherwise withhold to themselves.

CARE's Rob Walker has written "Only

by allowing retrospective control of editing and release of data to informants can the case study worker protect his subjects from the penetrative power of the research as well as checking his own misinterpretations or misunderstandings. Ethically this involves making the view that people own the facts of their lives and should be able to control the use that is made of them in research."

"This sharing of control over data with participants does mean that the researcher often has to face the fact that some of his finest data is lost, diluted or permanently consigned to the files. On the other hand, his access to knowledge about what are sensitive issues to his informants may guide his research in significant and unexpected ways."

Often, to protect his informants, the researcher (operating very much like the journalist) will write his report without naming schools or individuals within it. But this can damage the authenticity of the research. How are readers to check the information included? ("Did a headmaster really say that?") One possible solution is to appoint independent arbiters, with exclusive access to tapes and files, who can check out the doubts and queries raised by readers.

It is all too easy for the researcher to exploit people who may well be somewhat in awe of him, especially if he comes with the backing of some official body. As CARE's David Jenkins put it during the Cambridge conference, the researcher starts with the goodwill of his informants has lessened, or disappeared entirely.

A cynical interpretation of current practice would be that he divides his task into two, first developing trust to secure access ("we both want to get at the truth") and then treating the negotiation of release as a tough bargaining process between conflicting interests—and, by then, his dependence on the goodwill of his informants has lessened, or disappeared entirely.

The researcher may be able to win consent for the release of information by various tricks (possibly unconscious) such as presenting a passage to an informant for "improvement" (is your viewpoint adequately represented?) thus, as Mr Jenkins said, "deflecting attention from the fact of its release in form, and inviting bogus co-authorship, making refusal psychologically improbable."

These scenarios sometimes seemed unnecessary. I ought to be so nervous of infringing teachers' professional privacy? They are, after all, charged with other people's children. Most employees are judged, fairly crudely, by their results—journalists by the articles they write, engine drivers by the articles they train on time, builders by whether their houses fall down, lawyers by the cases they win. Teachers are not judged so crudely. Is it not right, then, for their methods to come under close public scrutiny?

Nevertheless, it is right that researchers should pause before rushing in to put pressure on other people's affairs. Some of those at Cambridge suggested that a professional association, with a code of ethics, is required to guarantee informants some rights of comeback. If so, the code must certainly be more effective than that governing the conduct of journalists.



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## A triumph—but the end of a chapter in theatre history?

Bernard Crick reviews Peter Brook's production of *The Ik*, which opened in London last week



The cast eat round a makeshift fire in *The Ik*, at the Round House, London.

Perhaps it should be the academic response, but I simply had not read Colin Turnbull's book, *The Mountain People*, which has been dramatised as *The Ik* by Denis Cannan and Colin Higgins, nor did I hasten to do so. The play must be the thing, not the sources, nor even the intended effect—as the programme will try to tell one. Yet I admit to having had some alarm.

What was one in for with a tale of the fate of the Ik (pronounced Eek) tribe coming from the International Centre of Theatre Research, Paris (France) with a polyglot cast whose improvisations were supposed to be as important as the direction of Peter Brook, himself possibly back on the rack of the theatre of cruelty and away from the transcendental trapezes of *Midsummer Night's Dream*?

I am still trying to distance it, and was trying hard beforehand not to fall for another stunt as bad and pretentious (yes, he has had his failures too) as Brook's *US of Yore*, the anti-Vietnam good guys' pantomime. Was this to be the anti-colonialist equivalent?

No way. And I have never heard an audience listen more attentively. The Gaunt Round House is stripped down to the iron pillars and a bare acting area, covered with a dark, heavy, almost black, material. The roots of a building and of theatre itself.

A simple story. A narrative voice tells us that this is a true story, told by a man who has been an administrator since the character of Colin Turnbull in *Ik* guide, played by Bruce Myers, English and unmade-up; a landrover journey is

mined, and they reach the Ik village, where a very glib Ik, Kutsin Old, a quiet, unblacked-up Japanese, Noh actor, joins them and, while telling of the starvation of his people, begins to rob the anthropologist. We listen so intently because much of the dialogue is in Ik, and the Ik is hard to understand as so inadequate that we have to ponder every word to wonder what greater complexity lies behind it, if only we knew Ik.

For their behaviour needs a lot of understanding. Little scenes are perfectly acted with a delicate, almost understated, quality. On a preview night, the house was full of actors somewhat awed, perhaps some appalled, at knowing what is needed by way of preparation and rehearsal to achieve such perfection.

No producer is more admired by actors than Peter Brook. The Ik story is the grain. A group sit with complete impassivity watching his strange ritual of making tea, but they howl with laughter when he burns his finger on the stove. Reluctant work, each way, they build a house of things and poles on the stage—once again a Brook distillation of Brecht into a stage machinery and a few totally realistic props: a hut to be built, a door to be made, a house to be built.

One scene of idyllic beauty. Some of the Ik move to the Sudan where they can hunt, share their food, sing and sleep together around the communal fire. And the actual smell of their fire gently breaks the carefully established barrier between them and the audience—an intense of humanity. But some return, for it is not really their land. Famille relief sacks arrive, but they are pillaged. They gorge raw meat until they are sick. The actors

The cast eat round a makeshift fire in *The Ik*, at the Round House, London. The woman will not lament her dying companion, nor parents a dying child; for death leaves more food for others. A child robs food from the hands of a dying man. "Only two things are good, to eat and to die." They have no energy left even for sex and, in a matter of fact, say so.

For driven off their hunting grounds to make room for a game reserve for tourists, they cannot adapt to a pastoral economy in nine years and without help—usually taken centuries, the anthropologist observes. And he takes notes, records and films, but not with a ghastly unconcern or as parody. He is a man, not just of white over black, or black neo-colonial elites over black people; but of man over man and of what it can reduce any of us to.

But I wonder. Certainly one of the most absorbing and reflective of the Ik have ever seen as theatre and perhaps the most technically perfect productions of ensemble acting. And such teamwork: notably Denis Cannan as co-dramatist and adaptor, and Colin Turnbull advising on authenticity. Both sharing great honour with Brook. But I wonder if it is as the excellent programme says in quoting J. C. Trewin's biography of Peter Brook: "For him yesterday in the regular

theatre is always dead except as a post-mortem subject. . . . Already his post, as a virtuoso director, has ceased to exist for him, it exists for us in all its mutations and surprises."

Is this really the future, or is it the final distillation of Brecht, Brook, and Noh, of the telling of the story with artificial artlessness, of alienation from entering in but recreation of high intellectual concern for the most elemental and simplest things of human existence? If in the Brechtian tradition, it has turned reflective and tragic, not denunciatory and satiric. I shed an initial facetious reserve, but I am not sure if this latest conquest and triumph is a new path to popular rejuvenation of the theatre, or an apothecia in a cultural desert. Imitation, however! Such great example is doubly dangerous, only the greatest artists can achieve together such sublime simplicity. Lovers of theatre, however, please come from the ends of the earth, as it before the end of February. The RSC have no subsidy for this production: artistic and commercial boldness deserve support.

The author is professor of politics at Birkbeck College, London.

## Why market forces should determine student choices

Let the market do the job. Let us have no more attempts to control the number of teachers in training according to an anticipated number of teachers required in schools. At least, not until we have another look.

These are what is going to happen to the economy? What is going to happen to young people's applications for higher education? What is going to happen to the birthrate? We need to have another look.

We are told that there are an uncertain number of unemployed teachers. Corrected that means there are some trained teachers not employed as teachers, but we do not know how many of them are employed doing something else.

We know the number of students entering teacher training: courses will be about 13,000 annually in 1981; it could be earlier, say 1978. We know that the number of children attending primary schools is falling. We know that the number of recorded live births is falling.

We know, too, that it is all very worrying for those who are trying to balance numbers within the teacher training system, and we know there must be a tendency to reduce the numbers in training for teaching still further. And to finish this catalogue, we now know that there will be no money allocated for induction and in-service work.

So how does 60,000 places in 1981 make sense with the 12,500 places for induction and in-service places not being funded, when 13,000 initial training places and 7,000 post-graduate certificate of education places may produce too many teachers?

In 1974, 32,000 students were admitted and over 100,000 students were in the colleges altogether;

60,000 was a rock bottom minimum, if the teacher training system was to do the job. Reduce this any further and there are dangers of collapse.

We need to have another look. Is there another approach? Consider individual, social, education and employment. Questions about the numbers of men and women training for teaching should be left to the choice of the individuals concerned.

Colleges should recruit students up to a prescribed maximum, say their 1974 figure. The number of teachers employed in schools should then be kept as a separate question.

This means breaking with a long and prized tradition that all teachers in training will be employed as teachers. It means professional associations of teachers concentrating on the numbers of teachers in schools and the quality of the training when they lobby Ministers, rather than talking about the numbers of teachers in training.

It means Ministers being prepared to claim resolutely that the health of the schools (and hence of the professional associations themselves) depends primarily on the best possible training system rather than on the numbers of teachers employed, and so to help professional associations change their focus.

Ministers and the associations would have to accept in principle that if secondary school pupils and university and polytechnic graduates are being sent out into the world where not all will get jobs of their preference—if they get jobs at all—then the same can be true of intending teachers.

This changed approach to the question of numbers in training for teaching means accepting publicly that teacher education is good in mathematics and sciences, then they will make their choices on a different basis from the past. They and their advisers in colleges, will

respond just as quickly to the market as to a Minister's pronouncements on the balance of training and shortage subjects at a time when there are more than enough teachers to go round.

In any case, if the Minister tries to hold institutions to such requirements within the open system, the colleges have no way of being sure they can comply, whatever their efforts. And of course for nearly 10 years there has been no guarantee that a BEd graduate will work in a school at all. Many do not. Circular 7/73 has removed many of the controls by which previous Ministers attempted to steer the training system.

All of this implies abandoning manpower planning as an instrument to ensure the correct number and categories of teachers enter the schools. That does not mean however that the Minister could not meet his responsibilities, for he could do so in two ways.

He could ensure that appropriately staffed specialist facilities of economic size for teachers of short-age subjects are sustained in a number of teachers' education institutions, so that a basic minimum is maintained. He could then deal with all other courses leading to a teaching qualification in exactly the same way as he deals with other courses, by choice.

Choice always means not choosing something else, and here there is a positive rather than a negative point to make. Students in training for teaching are aware of what is happening to the market for teaching posts.

If there are fewer nursery or infant posts and more secondary posts, fewer posts in arts and more in mathematics and sciences, then they will make their choices on a different basis from the past. They and their advisers in colleges, will

respond just as quickly to the market as to a Minister's pronouncements on the balance of training and shortage subjects at a time when there are more than enough teachers to go round.

Students who chose to follow a teacher education course knowing they were not guaranteed employment as teachers would receive a sound and effective higher education of their own choosing.

Colleges recruiting up to a prescribed maximum, whether to teacher or other awards, would produce sufficient numbers of students in colleges to sustain the good working order. Those which proved unable to recruit adequately would be closed.

The market would be doing the job. The schools would be receiving the teachers they needed. And the Minister's responsibilities would be discharged.

Of course questions about the future of the certificate, the rules about matriculation and mandatory grants, the sifting of specialist facilities in shortage subjects, and their number to make a secure framework to the teaching training system, would have to be answered.

So would more complicated matters of policy affecting the balance in numbers of students between polytechnics, the new colleges of higher education, and the surviving colleges of education, and the universities, together with the source of funds and mechanism of financing them.

But those matters are already under consideration in a variety of ways. Assuming all those matters have to be settled, the principle of the market is the thing. Come what may, the teacher training system would remain in good repair, able to produce the teachers the country needs.

The author is principal of Bishop Cleeve College, Mickleover.

### Chairs

Professor James Williamson, professor of geriatric medicine, University of Liverpool, has been appointed to the newly established chair of geriatric medicine, University of Edinburgh. Professor G. S. Boyd, reader in the department of biochemistry, University of Edinburgh, has been appointed to its chair of biochemistry. Dr B. R. Gaines, chairman of the department of electrical engineering at the University of Essex, has been appointed to its chair of electrical engineering science. Dr I. Budge, chairman of the department of government, University of Essex, has been appointed to its chair of government. Dr A. R. Hunter, consultant anaesthetist, Manchester Royal Infirmary, has been appointed to a personal chair in anaesthetics, University of Manchester. Dr M. Gibbons, senior lecturer in liberal studies in science, University of Manchester, has been appointed to its chair of liberal studies in science. The title of Professor Emeritus was conferred upon the following: Mr T. E. Chester, formerly professor

### Appointments

**Universities**  
Aberystwyth  
Dean: Dr K. Sinclair (Faculty of Science).  
Manager: K. E. Williams (Arts Centre).  
Bradford  
Director: D. T. Edward (Project Planning Centre for Developing Countries).  
Lancaster  
Librarian and director: A. G. Muckelbauer (Library Research Unit).  
Manchester  
Senior lecturers: J. J. K. Best; R. A. D. Paus (diagnostic radiology); J. S. Dixon (histology). Lecturers: D. H. Damer (sociology); S. L. Schor (medical oncology); D. Neary (neurology); P. W. Mullen (pharmacology).  
Newcastle  
Lecturers: K. D. Glazebrook (Statistics); J. K. J. K. Best; R. A. D. Paus (diagnostic radiology); J. S. Dixon (histology). Lecturers: D. H. Damer (sociology); S. L. Schor (medical oncology); D. Neary (neurology); P. W. Mullen (pharmacology).  
SRL Senior visiting fellow: Dr S. L. Schor (medical oncology); D. Neary (neurology); P. W. Mullen (pharmacology).

### Honorary degrees

**Belfast**  
LLD: Captain P. Montgomery, for services to the arts in Northern Ireland.  
LLD: W. C. Scott, for distinction in the visual arts.  
DSc: Professor R. Bulcher (analytical chemistry); Professor Dr R. W. Dillistone (geography); Professor G. F. Mitchell (astronomy); Professor S. M. Mullan (neurology); Professor D. H. Smith (physiology); P. P. Foreman (aeronautical engineering).  
MA: H. Goldblatt, for services to the theatre.  
**Liverpool**  
LLD: L. J. Van der Post, writer and explorer.  
D. M. J. S. Shirley-Quirk, bass-baritone singer and graduate of the University of Liverpool, 1932.  
DSc: Professor J. W. Cornforth, Royal

### News

The Harvester Press has been appointed exclusive distributor of Greenwood Press Microfilm Publications of Cinematograph, USA, in the United Kingdom and Ireland. Harvester will also serve the rest of the British Isles.

**NEW: Microfilm Publications** have been produced for the Department of Education and Science by the Central Office of Information as part of a series of career opportunities for graduates. Copies are available from: HMSO, Room 2, Elizabeth House, York Road, London E14.

**EASTER STUDY TOUR**  
Sirensburg & Luxembourg  
Brussels & Brugge  
While the 1st European Parliament, Court and the 1st European Commission are in session, the 1st European Parliament and the 1st European Commission are in session. Copies are available from: HMSO, Room 2, Elizabeth House, York Road, London E14.

**THE GRATER LONDON ARTS ASSOCIATION** have introduced a visual arts award of £250 and £500 for work by artists and for projects. Applications should be sent to the Greater London Arts Association, 100, Strand, London WC2R 0AL.

**THE DEPARTMENT OF EDUCATION** and Science have announced a new award of £250 and £500 for work by artists and for projects. Applications should be sent to the Greater London Arts Association, 100, Strand, London WC2R 0AL.

### Awards

The Arts Council is offering a bursary of £4,500 to a photographer of acknowledged ability to work on a project of the applicant's choosing. The council is also offering a limited number of £2,500 awards. Application forms from: The Arts Council of Great Britain, 100, Strand, London WC2R 0AL.

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### Forthcoming events

The Association for the Teaching of Psychology is holding a one-day conference at Loughborough College of Education, Leicestershire, on January 31. Dr Alan Radley, lecturer in psychology, Loughborough University, will lecture on the personal construct theory. Details from: Duncan Case, Loughborough University.

### Grants

**Bristol**  
Inorganic chemistry—£35,550 from the SRC towards an investigation on synthetic structural and mechanistic studies in organometallic chemistry under the direction of Professor F. G. A. Stone.  
Botany—£14,556 from the SRC towards an investigation entitled "Interactions between intracellular symbiotic chlorella and their invertebrate hosts" under the direction of Professor D. C. Smith.  
Organic chemistry—£12,260 from the SRC towards an investigation on lipid composition of the particulates in recent sediments under the direction of Professor G. Eglington.  
Mathematics—£12,052 from the SRC for research on an investigation on waves on beaches—development of solutions under the direction of Dr D. H. Peregrine.  
Electrical and electronic engineering—£10,315 (supplementary) from the SRC towards an investigation on an engineering study of disability and rehabilitation in hemiplegia under the direction of Dr P. A. Lynn.  
Theoretical chemistry—£4,550 (supplementary) from the SRC for investigation on the calculation of molecular line shapes and relaxation rates under the direction of Dr J. Gerratt.  
**Edinburgh**  
Forestry and natural resources—£13,163 from the Nature Conservancy Council towards research on changes in song-bird populations under the direction of Dr J. Locke.  
Engineering science—£13,923 from the SRC for research on an investigation in support of research on the use of pivoted disc prosthetic heart valve, under the direction of Dr N. MacLeod.  
Psychology—£5,570 from the Scottish Home and Health Department towards support of the development of a non-averaging technique to eliminate the effects of severely mentally deficient patients, under the direction of Professor J. Walton.  
Psychiatry—£4,275 (supplementary) from the SRC for research on the development of a high pressure to the prevention of manic depression, under the direction of Dr F. Prescott.  
Fire engineering—£30,500 from the SRC in support of research on the prediction of fire behaviour of combustible materials as used in buildings, under the direction of Professor D. J. Rastbach.  
Architecture—£17,500 from the SRC in support of research on numerical simulation of airflow over buildings, under the direction of Professor C. B. Wilson.  
Chemistry—£15,333 from the SRC for research on a chiral ion pair partition chromatography under the direction of Dr R. A. Wall.  
**Glasgow**  
Social and economic research—£26,375 from the Scottish Development Commission towards investigation of labour market disadvantage in areas of urban deprivation.  
Mathematics—£3,500 from the International Workshop to prepare and integrate a series of lecture notes and slide material on the diploma. Further details from: Dr F. A. Shore, The Polytechnic of Wolverhampton, Wolverhampton WV1 1LV.

The University of Essex Library is holding an exhibition of books and drawings: 1919-72 will be held in the Library, 100, Strand, London WC2R 0AL. The exhibition covers more than 50 years of its work. Admission 50p (ICA members and students 30p).

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The Association of Colleges Implementing DIPHE programmes will be holding their annual conference, on January 30 at the Midland Hotel, Birmingham. Lord Cresswell-Hunt, Minister of State for Higher Education, will be speaking at the diploma. Further details from: Dr F. A. Shore, The Polytechnic of Wolverhampton, Wolverhampton WV1 1LV.

**Nottingham**  
Readers: T. E. J. Healy (anaesthesia); B. S. Worthington (radiology).  
**York**  
Director: P. G. Greenwood (Building Research).  
Research fellows: Y. Kominos (physics); B. Williams (Institute of Advanced Architectural Studies); A. Gibbons, C. G. Trinder (Institute of Social and Behavioural Research); Research assistant: B. Heywood (York Minister Archaeology Office).  
**Colleges**  
City of Liverpool  
Principal designate: B. Cane.  
**General**  
Dr J. J. K. Best, editor of *Programmed Learning and Educational Technology*, has been appointed first head of the educational research and development department of the Queensland Institute of Technology, Brisbane, Australia.  
Dr W. D. Clarke, formerly assistant director of the British Library, Trust, has been appointed director. He succeeds Mr Charles Engel who has been appointed associate professor at Newcastle University, New South Wales, Australia.

**Open University programmes**  
January 24 to 30  
Sunday January 25  
Monday January 26  
Tuesday January 27  
Wednesday January 28  
Thursday January 29  
Friday January 30  
Saturday January 31

**Noticeboard is compiled by Patricia Santinelli and Myrna Monsurate**





The Times Higher Education Supplement (London)

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Tel. 202 6 36705

National Press Building  
Washington D.C.

## Fee increases spark biggest anger since Vietnam war

A nationwide organization of students in Michigan and a special task force of university administrators in Illinois have been formed to fight increases in tuition fees in the two States.

The rise in fees in the large universities in Michigan has provided the state's most popular rallying cry for Michigan students since the protests over the Vietnam war, according to a spokesman at Oakland University.

Students Associated for Lower Tuition (SALT) have formed lobby groups in the University of Michigan, Michigan State, Wayne State, Central Michigan and Eastern Michigan universities and in Ferris State, Grand Valley State and Lake Superior State Colleges.

Students are concentrating on fighting cuts in funds for higher education by the State. Representatives have met the Governor and members of the legislature, and have sent letters to more than 140,000 parents of students. The Governor has already received 6,000 letters from parents of students at Oakland University.

Two years ago Michigan took back almost \$6,500,000 from the higher education appropriations; in December the State cut \$12.5 million from the 1975-76 budget, including nearly \$7m in appropriations for four-year colleges and universities, \$2,500,000 in capital funds for these institutions and \$500,000 in State scholarship funds.

All 13 of Michigan's four-year state colleges and universities have

## The long and short of it

American teachers prefer wordy, convoluted sentences to short, sharp ones, according to a researcher at the University of Chicago. In a sample of marks given by school and college teachers, two-thirds gave better grades for essays written using many abstract nouns than those using mainly direct verbs.

"A good many teachers implicitly prefer what they explicitly reject," suggested Professor Joseph Williams, associate chairman of the English department.

"The commonplace about choosing the short, British Anglo-Saxon word over the Latinate and about being direct appear to lack pragmatic support."

School teachers were least able to overcome the effect of a pompous style, he said, because of the kind of style they were exposed to in schools of education.

Junior college teachers were able to make distinctions more exactly because they spent more time teaching composition. On the other hand a majority of graduates reading for MA's in English preferred the verbal, simple version.

Asked to choose between sentences such as the following, most teachers preferred the first version:

(1) There was an investigation into the causes of the changes in the cell by the scientists.

(2) The scientists investigated why the cell changed.

Professor Williams called the first style "the worst kind of education, the kind of education that produces a mediocre, unimaginative, mediocre, sociological."

## Career teaching branded a 'hollow reform'

One of the fastest growing innovations in American education in recent years—career education—has just been hit sharply on the head by the *Harvard Educational Review*. An article in the current issue calls the attempts to relate education more closely to future work "a hollow, if not an invidious, reform."

Career education, intended to correct the failures and broaden the scope of vocational education, was promoted in America almost entirely by Sidney Marland, former Commissioner of the Office of Education.

Beginning in 1971 with a grant of \$9m, expenditure rose quickly to \$61m in 1974. Almost every State now has a career education coordinator, and almost a third of America's 17,000 school districts have introduced career education into the curriculum.

But Dr Norton Gubb, a research economist at the University of California, Berkeley, and Dr Marvin Lazerson, associate professor of education at the University of British Columbia, the two authors of the article, maintain that the claims for career education are false.

"Despite its assertions to the contrary, it is primarily a renewal and expansion of vocational education, a movement that has previously proven itself ineffective in reducing the gap between rich and poor, in enhancing school learning, in solving social and economic problems, and in improving the status of physical work," they say.

Vocational education failed because students never flocked to the courses, rarely found jobs in the area for which they had been trained and often did not stay in

school long enough to complete their training.

Their terms of status, income, job mobility, unemployment, and job satisfaction vocally trained students did no better, and often worse, than academic students.

The Harvard article maintains career education fails for exactly the same reasons. It is also based on fundamentally false premises. The first is that work is sufficiently stimulating to cure the malaise in schools and broaden pupils' outlooks.

"In fact most work is boring," the authors say. "Its universal routine, the simplicity of most tasks and the constant supervision by a hierarchy of things all deny workers a sense of competence and a feeling of responsibility."

Given the negative aspects of most jobs, the introduction of "work" in schools might have the opposite effect from that intended.

Second, career education gives false hopes of greater mobility. Work nowadays was fragmented and career ladders were short; most mobility was horizontally to different jobs requiring the same level of skill and responsibility.

"As long as jobs themselves are arranged in short ladders and in route to occupations of greater responsibility and status, the only way to improve the status of the worker is to improve the status of the occupation," they say.

The authors say career education is no cure for unemployment, since employment depends on the overall health of the economy.

## Facing up to disaster

Contrary to popular assumption, people seldom panic and run away from disasters, scientists at Ohio State University's Disaster Research Centre have found.

Research into the aftermaths of 230 disasters, from Californian earthquakes to floods in Italy found that looting and violence were infrequent, survivors forgetting age, race and class differences, were charitable towards fellow victims, and unsolicited gifts from outside such as clothing often added to a community's troubles.

The 11-year-old disaster centre is the only one of its kind in the United States. Teams from Ohio have been sent to earthquakes in California, Alaska, Chile, Yugoslavia, Iran and Greece, hurricanes on the southern United States and Japan, and floods in many countries. They have studied reactions to explosions, forest fires, toxic spills, tidal waves and major dam



Darwin's December 1974 flood disaster. Breaks in America, Canada, Italy and Australia.

## Long distance link-up

In response to the growing demand for professional and vocational training, a small woman's liberal arts college in New England has joined with a technical university in Georgia more than 1,000 miles away to provide a five-year dual degree in liberal arts and engineering or health sciences.

Wheaton College, near Boston, with only 1,200 students and a long tradition as a college for women decided that women now need the opportunity to develop in a community free from the limited expectations imposed on women's society and to follow a career necessarily dictated by tradition for women.

The Georgia Institute of Technology in Atlanta has 8,000 students, is coeducational and specializes in aerospace, civil, electrical, chemical, industrial, nuclear and other forms of engineering, as well as textiles, computers and management.

Women on the dual degree will not complete the normal four year at Wheaton but will move down to Atlanta for the final year.

## It's a dog's life

Psychotic patients can be helped to recover by being given dogs to look after, a psychiatrist at Ohio State University has found.

When 20 disturbed patients were given pets, 18 of them showed improvement, some to the point of discharge from hospital.

Dr Samuel Corson, professor of psychiatry and biophysics, believes pets could be used to "humanize" psychiatric institutions and reduce the need for drug treatment. Dog, unlike drugs, have no side effects, he says.

## Children's rights

A course in children's rights at the University of Texas at Austin will start this spring to give teachers information to protect their own possible law suits.

The course will deal with freedom of expression, freedom of personal appearance, privacy, discipline, punishment, compulsory education, testing and streaming, school records and the freedom to learn.

## Ontario lecturing scheme 'being starved of money'

A very lukewarm report has been issued on a project which has now been going for two years to improve teaching in universities in Ontario. Canada's richest and most populous province.

The report suggests the project has too little money available to make much difference to university teaching, that it has not created a cadre of expertise in instructional development, and that the universities have not increased their commitment to teaching as a result.

The report, prepared last year by three professors, has been coolly received by the interim committee of the project, known as the Ontario Universities Programme for Instructional Development.

"They say the evaluators are unrealistic in the amount of money they think could be devoted to the project, suggestions for black funding would take a long time to negotiate while there was an 'urge to need to settle new year's budgets', and the report contained other statements and omissions they would like to 'take issue with'."

The Ontario programme, begun in 1973, works through a system of specific university projects to improve teaching and to reduce the gap between teaching and research. The evaluators found many people thought such a grant system undesirable, decisions about

## \$235,000 for Black papers

Three universities have received funds from the National Endowment for the Humanities to support the editing of papers of early Black leaders.

Yale University received \$150,000 for the continued work of a 17-volume edition of the writings of Frederick

Douglass. Maryland University received a grant of up to \$80,351 for the editing of a 15-volume edition of the papers of Frederick Douglass. The University of Wisconsin at La Crosse received \$5,000 for a pilot survey of sources for an edition of the papers of selected Black abolitionists.

## 'Two cultures' courses to get major humanities grant

The Mellon Foundation is shortly to announce a grant of \$100,000 to a university project in humanities launched last year with the second largest Government grant ever given to the humanities—almost \$1m.

The project at the University of Florida is a series of courses for medical, law, engineering and business administration students which complement their professional education with closely related studies in the arts and humanities.

The first batch of medical students have just completed their first semester's work, and last week the new courses were extended to lawyers.

The project aims to widen the horizons of pre-professional education by getting students to consider the philosophical, literary and social implications of their work.

Medical students, for example, study rural health care in the department of anthropology, the ethics of medical practice in the department of philosophy and literary studies in the English department.

They study death clinically as their major course in the humanities project they read Shakespeare's *Hamlet*, *Macbeth*, *King Lear*, *Antony and Cleopatra*, and what does *Macbeth* tell us about the human condition throughout the ages in various cultures.

Günther Kloss reports on the progress of West Germany's first comprehensive university

## Kassel's brave new world of integration

West Germany's first comprehensive university (*Gesamthochschule*) at Kassel in Hessen celebrated its fifth birthday last summer. Although it has now been joined by seven other comprehensive universities it is still the largest—5,200 students in the summer semester of 1975, together with 355 academic staff and 595 other employees.

Its growth over this five-year period has been faster than that of any other university in Hessen and the regional Ministry of Education has confirmed that it favours a still further expansion of the university to a maximum of about 12,000 students and 2,000 staff.

Kassel was not an entirely new foundation: it is a fusion of several formerly independent institutions, including advanced colleges for social pedagogics and social work, an advanced technical college which itself was an amalgamation of seven previously separate colleges and a college of art.

A new component dealing specifically with the education and training of teachers in arts subjects (chiefly modern languages), science subjects (biology, chemistry, mathematics and physics) and in pedagogy and psychology was added. It was felt that only this step would raise the status of the new institution sufficiently.

Most new comprehensive universities in West Germany originated in a similar manner. Kassel has the distinction of being the only one to include a college of art, and it sets special store by the possibility of the often quoted cross-fertilization of the visual arts and science and technology.

The origin of the university inevitably means that it is physically dispersed over a number of sites in and around Kassel. A new administrative centre, which also houses the university's newly founded departments, has been built in a suburb and is being further extended. However, the Land Government of Hessen has now decided that an additional site in the centre of the town, formerly occupied by a heavy engineering firm, should be designated as the main area for future physical expansion.

The SPD Government of the Land deliberately set out to create a comprehensive university of the integrated type. Rather than merely linking its constituent parts loosely on a cooperative basis Kassel was to be closely knit with a centralized government, administration and planning.

Kassel shows that the creation of a new teaching staff structure is not a long way off. New appointments from outside, especially in the newly created parts of the university, continue to be academically and often socially superior to their colleagues from the former non-university colleges.

Conditions of employment differ, too. Although many of the latter group are entitled to sell themselves as professors their teaching load is more than twice as heavy and their time and resources for research are severely restricted; yet precisely the elimination of this inequality is put forward as one of the chief points in favour of comprehensive institutions.

In Germany, where all permanent and university and college teachers are civil servants, a reform of the staff structure can only come from the Federal parliament, which must make the civil service officers structure more flexible. The lack



Kassel comprehensive: pioneer.

of it so far severely hampers any serious reform endeavours.

Initially, the new university was administratively divided into two basic so-called "organization units". In 1974 the university Advisory Council, with ministerial approval, embarked on some reorganization which had become necessary as a result of some curricular developments.

Thus, for example, the separate social pedagogic and social work units were combined. Even though the new resulting units are not to be regarded as anticipating the final administrative structure they indicate a slow shift towards integrating function and subject in under way.

Apart from institutional integration the most important aspect of a fully comprehensive university should be the combination of higher and lower levels of education in different types of tertiary institution into one comprehensive course system.

Such curricular integration aims to create a flexible course system which is differentiated horizontally as well as vertically. Within the system courses, though differentiated, must be related to each other and must allow different types of final examinations, thus catering for both the more practically as well as the more academically motivated student and safeguarding the possibility of transfer. In addition it would also facilitate a quicker response to changing manpower requirements of society.

The original colleges in Kassel all had their own courses, leading to different diplomas and certificates. Most of these still continue. At the same time new courses are being devised, are experimented with on a model basis, or have actually been introduced. A great deal of the university staff's energy is devoted to this task which they attack with typical German thoroughness, so that it sometimes seems to result in a procrustean rather than with practical course content.

This is one of the reasons why results are emerging only very slowly. Another obstacle is the different entrance qualifications which are at present stipulated for different courses.

Furthermore, all changes in the curriculum, especially the overall course and final examination structures, must obtain ministerial approval. In spite of the ministry's keen interest in the Kassel experiment the bureaucracy tends to be conservative and is usually anxious to preserve a basic uniformity between the universities of the Land.

For this reason the Kassel concept of a reformed teacher education which recognizes the basic equality of all levels of teaching

and would have allowed all teacher students to be trained on the basis of a university model in eight semesters had to be modified. Some significant developments have nevertheless already taken place. For example, as a rare and bold temporary expedient to harmonize the training of architects—they were previously taught emphasizing either the artistic and design point of view or the technical competence, depending on whether their particular course originated in the former college of art or the former advanced technical college—a common final phase for all Kassel architect students was introduced in 1973-74.

This has the additional advantage of bringing architect students there up to the level of their counterparts at traditional universities.

In the winter of 1973-74 a new kind of degree course in social pedagogics (including specialization in community work, organization of social services, child therapy or social therapy) was started. In October 1975 190 students were admitted to three new integrated courses in the fields of technology and architecture, including one in design and manufacturing technology and another in town and country planning.

According to the Kassel concept "integrative" courses are particular courses for one particular subject. Courses are divided into stages and two or more final qualifications are possible, depending on the courses chosen and on professional requirements. The Kassel concept of integration of practical and theoretical work to a degree hitherto unknown in Germany, and some of the new courses so far approved and introduced are in fact of the sandwich type.

The basic Kassel model, which will form the backbone of all new integrated courses, allows a variety of entrance qualifications. All students have to pass through a one-year "orientation phase", a foundation year which is designed to minimize the differences in knowledge and experience between students from varying educational backgrounds and will acquaint the students with the basic problems and methods of their chosen courses.

During the year students will receive advice and attention. The following core studies, lasting two or three years, lead to examinations and qualifications for a particular profession or career. Like the lectures, the qualification may be at two levels and will be equivalent to a degree.

The model finally envisaged, a third phase of two to four semesters, either spent doing original research or in-service further training.

former academic. Beginning her career as a technical school teacher, she was successively university lecturer, deputy faculty and director of an *Institut universitaire de technologie* before being appointed rector, the first woman to hold this position.

## Universities minister sacked

from George Morgan

French universities are to have their first woman Secretary of State. Mme Alice Saunier-Seïte, 50, currently rector at Reims, was last week appointed to French higher education's top political post as part of President Giscard d'Estaing's Cabinet reshuffle.

The new minister replaces M Jean-Pierre Soisson, who has become Secretary of State for Professional Training.

Like M René Haby, Minister of Education, Mme Saunier-Seïte is a

Norway

## Public spending slow-up threatens research jobs

from Mike Duckenfield

STOCKHOLM  
Tougher times for Norwegian research despite the financial and industrial stimulus of North Sea oil and gas have been predicted by Mr Hans Skole, deputy director of the Science and Humanities Research Council's Institute for Studies in Research and Higher Education.

Writing in last year's annual research review published by the council, Mr Skole says a smaller percentage of graduates will be able to enter research in the next 10 to 15 years than recently due to the slowdown in the public expenditure growth rate and the anticipated small number of retirements among existing researchers.

"There is a definite danger that universities and research establishments may develop into communities of senior citizens leaving membership of future classes of graduates with minuscule chances of getting research jobs."

In the past two decades there has been an annual 5 to 10 per cent growth rate in the number of research jobs, and with smaller numbers of graduates there had often been shortages of suitable recruits for some types of research. At the beginning of the decade, for example, 14 per cent of graduates went into research and development, ranging from 2 per cent of law students to 50 per cent of sociologists.

Research, however, there has been a sharp decline in the num-

ber of new jobs; numbers have been halved since the peak of 270 new jobs in 1972. Prospects for the next 15 years suggest an annual recruitment below the level of any year since the early 1960s, says Mr Skole.

The main reason for the change is the reduction in the public spending growth rate. As publicly financed, this has caused the planning agencies to be cautious both over timetables and standards of research.

In addition, last year's budget said that students should be expected to meet a large part of their course requirements through individual work, a clear indication that the Government does not intend to maintain existing staff-student ratios as numbers of the latter increase.

At present, only 34 firms invest more than 2m Nkr (£180,000) a year in research, and, according to Mr Skole, this is unlikely to change radically because of oil alone.

Similarly, military research is unlikely to be increased as Norway buys most of her weapons abroad, and the future of atomic energy research has been set back by the Government's decision to decline membership of the European Space Agency.

The areas most likely to see significant increases in activity are on the other hand, are pollution control, working environment and social planning work.

Holland

## Umbrella body proposed for financing research

from Lynn George

AMSTERDAM  
Changes to the present system of financing research are proposed in a memorandum on science policy by Mr Folke Trip, Science Minister.

In particular, he wants to establish a new, much broader organization, with more specific responsibility for research financing from the second flow of Government funds. These funds are primarily, though not exclusively, earmarked for the universities and are used for fundamental research which cannot be financed from the basic university or "first flow" funds.

The administration of the second flow of funds at present rests mainly with the Royal Netherlands Academy of Sciences and Letters (KNAW) and the Netherlands Organization for the Advancement of Pure Research (ZWO).

The latter, comparable to Britain's Science Research Council, has also set up a limited number of organizations responsible for planning research in particular disciplines.

Working committees consisting of leaders of university research in the field concerned submit research ideas which are then selected for final examination and approval by ZWO.

It is now proposed that this method for allocating funds which has proved successful in fields such as medicine, physics and chemistry

should be extended to include the humanities, the social sciences and the more technical and applied branches of science.

Further, ZWO should be converted into a Council for Scientific Research (RWO) consisting of the divisions and sub-divisions for the various research areas plus a central council.

This would have a more heterogeneous composition than the present ZWO one, consisting of chairmen of the divisions, five members nominated by the top-level advisory Academic Council, representatives from the Agriculture and Fisheries and Research and Development Ministries as well as five members and a chairman appointed by the Education Ministry.

The responsibilities of RWO would be exercised within a framework established annually by the Education Ministry and would include allocating funds, drawing up and evaluating research programmes from the second flow of funds and advising the Education Minister.

The central council would also act as an advisory tribunal for authorities and other bodies whose research proposals had been rejected by the divisions.

Further, it is proposed to increase the second flow of funds from the present 10 per cent of the university research budget (around £180m for 1976) to some 25 per cent.

Spain

## Police at last leave campuses

from William Chislett

MADRID  
Students who returned to university last week found that something was missing from the campuses: the police.

The Government has ordered police off the universities who have been there for many years. The order came with a promise from St Carlos Robles Piquer, the new Education Minister, to allow more student participation and democratic reforms.

The withdrawal of police from universities is an important move by the government, for example, to win the support of students and teachers. Police presence, particularly at Madrid's three universities, has led to repeated clashes with students and complaints from teachers that they were unable to teach under such conditions.

Only last month a professor of sociology and political sciences resigned at Madrid's Complutense University in protest over police action. Under the anti-terrorist law decreed by the late General Franco last August, police have cracked down even more severely than usual on illegal student activities. The decree is still in force but is expected to be revised shortly.

Police action led to a very low turnout for the student elections in December. In most faculties in universities throughout the country there were no elections because there was not a quorum.

Students also felt that it was not worth their while to vote for representatives, who would then not be able to carry out their duties because of police harassment. Efforts to hold debates and assemblies before the elections were repeatedly broken up by police.















Paper probably £3.75 net









## Elisborough: the devastating consequences of design failure

1976. may be obtained.

The author is professor of education at Bristol University.







## Polytechnics continued

NORTH STAFFORDSHIRE POLYTECHNIC  
Department of Management StudiesSenior Lecturers or  
Lecturers II in Management

Applications are invited for lecturers who have relevant industrial experience, possess a degree in Management (preferably at Masters level), and who can offer, in addition to general management subjects, one of the following specialisms:

- Organisation Theory
- Financial Control
- Public Sector OR Local Government Management
- Communications

Alternatively, applicants who can offer an appropriate academic or professional qualification and who can extend their teaching to cover some of the broader areas of management would be considered.  
Salary: Senior Lecturer £5,031-£5,955 (bar)-£6,417.  
Lecturer II £3,279-£3,403.

Details of benefits available to successful applicants are included in the further particulars.

Application forms and further particulars may be obtained from the Deputy Director (Staffing), North Staffordshire Polytechnic, College Road, Stoke-on-Trent ST4 2DE.



## SCHOOL OF PHARMACY

## LECTURER IN PHARMACEUTICS

with relevant academic, industrial or research experience.

Salary range £3,216-£6,495

Removal expenses assistance.  
Details from Chief Administrative Officer,

Robert Gordon's Institute of Technology,  
Schoolhill, Aberdeen, AB9 1FR

HATFIELD  
THE POLYTECHNIC

## LECTURER II IN SOCIAL

## (the advertisement)

The Polytechnic's main social work course is a four-year course leading to a Bachelor of Social Work degree. The successful candidate will have a degree in Social Work or a related subject, and will have relevant experience in social work.

Salary range £3,216-£6,495

Removal expenses assistance.

Details from Chief Administrative Officer,

Robert Gordon's Institute of Technology,

Schoolhill, Aberdeen, AB9 1FR

Further particulars and application forms may be obtained from the Deputy Director (Staffing), North Staffordshire Polytechnic, College Road, Stoke-on-Trent ST4 2DE.

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## Courses

Dartington College of Arts  
Theatre B.A. (Hons)

The Department of Theatre offers a new four year degree course, validated by the Council for National Academic Awards and starting in September, 1978.

The course is a practical and theoretical study of theatre and its engagement with society. The students will spend the third year in theatre groups working in cities.

Write for details to: Colette King, Theatre Department, Dartington College of Arts, Tolnes, Devon, TQ9 6EJ.

LONDON  
UNIVERSITY OF  
DARTINGTON COLLEGE OF ARTS

Applications are invited for a new part-time M.A. course in Theatre Studies. The course will be offered on a part-time basis and will be available to students who have completed a first degree in a relevant subject. The course will be taught by leading experts in the field of theatre studies and will provide students with a comprehensive understanding of the theory and practice of theatre.

## LONDON

ROYAL COLLEGE OF ARTS  
Applications are invited for a new part-time M.A. course in Theatre Studies. The course will be offered on a part-time basis and will be available to students who have completed a first degree in a relevant subject. The course will be taught by leading experts in the field of theatre studies and will provide students with a comprehensive understanding of the theory and practice of theatre.

SHEFFIELD  
THE UNIVERSITY

Applications are invited for a new part-time M.A. course in Theatre Studies. The course will be offered on a part-time basis and will be available to students who have completed a first degree in a relevant subject. The course will be taught by leading experts in the field of theatre studies and will provide students with a comprehensive understanding of the theory and practice of theatre.

TESSIDE  
THE POLYTECHNIC

Applications are invited for a new part-time M.A. course in Theatre Studies. The course will be offered on a part-time basis and will be available to students who have completed a first degree in a relevant subject. The course will be taught by leading experts in the field of theatre studies and will provide students with a comprehensive understanding of the theory and practice of theatre.

## Universities cont

## LONDON

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STRANMILLIS COLLEGE  
BELFAST

Principal: James Pomfret, M.A., B.Sc., M.Ed.

Stranmillis College is a College of Education of 120 students who are preparing to teach in nursery, primary and secondary schools through the Certificate (3 years), B.Ed. Degree (4 years) and Post-Graduate (1 year) courses. The College is non-denominational; there is no religious test.

The College is pleasantly situated in an attractive wooded estate of some 45 acres, in a quiet residential neighbourhood on the southern outskirts of the City of Belfast. New building projects to the value of £2 million have been completed in the last eight years.

Head of Education  
Department

As organised at present, all members of the department according to their teaching experience, participate in common curriculum studies and act as tutors in the study groups of students in nursery, primary, and all types of secondary schools. According to specialist qualifications, they undertake teaching in history, comparative studies, philosophy, psychology, and sociology, as related to education.

It is likely that a three-year Pass and a four-year Honours B.Ed. Degree will be introduced in the near future. The department has the equivalent of twenty-nine full-time staff.

Salary: Under the pre-Houghton scales (which is similar to the corresponding Feilham Scales) the salary of the Principal Lecturer will be £5,031-£5,955 (bar)-£6,417. Applications should be received not later than 15th February 20th.

Further information about the College and the department, and a form of application, may be obtained from the Secretary, Stranmillis College, Belfast, BT9 7W. Applications should be received not later than 15th February 20th.

## Librarians

## CANADA

## UNIVERSITY LIBRARIAN

## SAINT MARY'S UNIVERSITY

## Halifax, Nova Scotia

Invites applications for the position of

## UNIVERSITY LIBRARIAN

A graduate degree in Library Science and considerable administrative experience are essential.

The successful applicant will be responsible for developing and maintaining the library's collection of books, journals, and other materials.

Salary range £3,216-£6,495

Removal expenses assistance.

Details from Chief Administrative Officer,

Robert Gordon's Institute of Technology,

Schoolhill, Aberdeen, AB9 1FR

Further particulars and application forms may be obtained from the Deputy Director (Staffing), North Staffordshire Polytechnic, College Road, Stoke-on-Trent ST4 2DE.

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County of North Yorkshire  
SCARBOROUGH  
NORTH RIDING COLLEGE OF EDUCATION

Applications are invited from persons with appropriate qualifications and substantial experience of teaching Education for the following appointment which will be from September 1st, 1978.

## DEPUTY PRINCIPAL

The College has been approved by the D.E.S. as an institution to be concerned principally with teacher education, both initial and in-service, and offers courses for B.Ed. (Honours), B.Ed. (Ordinary), Certificate in Education, and Diploma in Higher Education. In addition the College is developing new courses which offer "second chance" opportunities in Adult Education.

The salary is in the range of Group 4 at £7,500 per annum. Further particulars and application form from the Principal, North Riding College of Education, Filey Road, Scarborough YO11 3AZ. Telephone: Scarborough 8222. Closing date for the receipt of applications February 20th, 1978.

## Colleges of Further Education

## HULL COLLEGE OF HIGHER EDUCATION

Chief  
Administrative  
Officer

(P.O.2 range £10,28,726-£7,407 per annum)

Applications are invited for the senior administrative post in this new College of Higher Education designated in September, 1978, following an amalgamation of Hull Regional College of Art & Design, Hull College of Commerce, Kingston upon Hull College of Education, Hull Nautical College and Hull College of Technology, together with the voluntary Endeavour College of Education.

The Chief Administrative Officer will be concerned initially with the development and implementation of an administrative structure for the new institution. He/she will be a member of the senior management team and will be responsible to the Director of the College. He/she will act as Clerk to the Governing Body and as Secretary to the Academic Board.

Further particulars and application forms may be obtained from the Principal, Hull College of Higher Education, 111/113, Victoria Road, Hull, HU1 7BA. Closing date for receipt of applications February 20th, 1978.

Further particulars and application forms may be obtained from the Principal, Hull College of Higher Education, 111/113, Victoria Road, Hull, HU1 7BA. Closing date for receipt of applications February 20th, 1978.

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## Colleges of Further Education continued

## Humberdale County Council

HULL COLLEGE  
OF HIGHER EDUCATION

This new College, to be designated in September 1978 following amalgamation of Hull Regional College of Art, Hull College of Commerce, Kingston upon Hull College of Education, Hull Nautical College and Hull College of Technology together with the voluntary Endeavour College of Education, wishes to appoint staff in the areas shown below to assist in the development and teaching of courses at degree and diploma level in Business Studies and Applied Social Studies.

CAREERS GUIDANCE ECONOMICS  
LAW SOCIOLOGY  
SOCIAL PSYCHOLOGY PSYCHOLOGY  
SOCIAL WORK

Applicants should have good academic and professional standing and experience of teaching at degree level. Appointments may be at Lecturer II, Senior Lecturer or Principal Lecturer level.

Salaries payable:  
PRINCIPAL LECTURER £5,940-£8,842 (bar)-£7,578  
SENIOR LECTURER £5,031-£5,955 (bar)-£6,417  
LECTURER II £3,279-£3,403

Further particulars and application forms, to be returned no later than 13th February 1978, may be obtained from the Director of Education (Ref: FE), County Hall, Beverley, HU17 9BA.

## Humberdale County Council

HULL COLLEGE  
OF HIGHER EDUCATION

Applications are invited for the following senior posts in this new College of Higher Education to be designated in September, 1978, following an amalgamation of Hull Regional College of Art, Hull College of Commerce, Kingston upon Hull College of Education, Hull Nautical College and Hull College of Technology, together with the voluntary Endeavour College of Education.

ARCHITECTURE, BUILDING AND CIVIL ENGINEERING  
Head of Department, Grade V  
BUSINESS STUDIES Head of Department, Grade V  
DESIGN Head of Department, Grade V  
QUANTITATIVE METHODS AND COMPUTING Head of Department, Grade IV  
COLLEGE LIBRARIAN Head of Department, Grade IV  
Salaries payable: Head of Department, Grade V, £7,305-£8,271 per annum  
Head of Department, Grade IV, £6,766-£7,632 per annum

Further particulars and application forms, to be returned no later than 13th February, 1978, may be obtained from the Director of Education (Ref: FE), County Hall, Beverley, HU17 9BA.